Background paper 016 Efficient use of Land

1. Introduction

1.1 This background paper is produced in support of the density standards set in Policy HD2 as well as the assumptions underlying the Strategic Housing Land Availability Assessment (SHLAA) and the minimum housing number requirements included in site allocation policies.

1.2 Oxford has acute housing pressures that need to be addressed, and this requires a thoughtful approach. The Plan aims to ensure increasing densities and efficient use of land in a way that respects the city's historic character and unique identity, whilst also ensuring high-quality and sustainable development. This approach will sensitively manage change whilst ensuring thriving, walkable communities that respect Oxford's architectural legacy that is such a key part of its identity.

1.3 There are competing demands and needs for different uses across the city, which means it is vital that efficient use is made of land. Because we cannot meet our housing need within our boundaries, it is particularly important that we make all efforts to find housing capacity and to justify our housing capacity assumptions. As part of ensuring we have left 'no stone unturned' in the search for housing capacity, as well as searching carefully for sites, we need to consider density and capacity of each site in our assumptions carefully.

2. Policy Context and Guidance

National Planning Policy Framework (NPPF)

2.1 The National Planning Policy Framework (NPPF) states the Government's objective of ensuring efficient use is made of land, taking into account considerations such as local market conditions and viability, the forms of development needed, the desirability of maintaining an area's prevailing character and setting, or of promoting generation and change, and also the importance of securing well-designed, attractive and healthy places (paragraph 129). The NPPF is clear that minimum density standards should be applied in city and town centres and other locations that are well served by public transport, and that these should seek a significant uplift in the average density of residential development within these areas, unless it can be shown that there are strong reasons why this would be inappropriate (paragraph 130). Paragraph 130 also says minimum density standards should be considered for other areas, and that a range reflecting accessibility and potential of other areas may be appropriate.

National Planning Practice Guidance (PPG)

2.2 The National Planning Practice Guidance (PPG) includes additional guidance for establishing appropriate densities on a site or in a particular area. It sets out tools that may assist, including accessibility measures, characterisation studies and design strategies, dealing with issues such as urban form, historic character, building typologies and green infrastructure, and the capacity of services and environmental risks such as flood risks.

Strategic Housing Land Availability Assessment

2.3 This is a constraint-based assessment that seeks to identify sites and broad locations and assesses their development potential. The assessment looks at whether sites and broad locations for development have the potential to come forward for housing as part of the development plan process. The SHLAA includes an assessment of capacity. This has been done on a site-by-site basis, but generally applying the broad capacities considered suitable for different typologies in Oxford, which are also set out in Policy HD2. These densities reflect an analysis of best practice and consideration of how it applies in Oxford.

3. Methodology

Identifying appropriate density typologies

3.1 A key consideration in identifying appropriate densities is ensuring that they are set at a level that is achievable and will come forward. Achievable density does have limits. What is marketable will vary depending on the characteristics of the area. An area that is well connected, with a range of services in reach and good public transport will support higher density development that provides little parking and that is generally smaller and with less amenity space. There is not a simple direct correlation between heights and densities. However, density and capacity will be limited by heights that can be achieved. For example,

between about 7 and 12 storeys, developments are not viable because the extra costs of construction in order to make them safe outweigh the additional value from greater height until around 12 storeys is reached. Taller buildings will need more space between them and increases in density become limited.

3.2 Another limiting factor is what is marketable and desirable, and this will often be houses and mid-rise flats, which then have significantly more value. The identification of appropriate densities must also be informed (and inform) other objectives of the Plan. Density and site capacity is influenced by other considerations such as the level of greening, overlooking and unit sizes.

3.3 Whilst it is important to maximise housing capacity, this should not be at the expense of other needs and considerations, or people's living conditions and the general attractiveness or livability of the city. Assumptions also need to be deliverable. Density assumptions need to strike the right balance. The balancing of different factors is complex, and the aim has been to set densities that are higher than the prevailing densities and make effective use of land, whilst ensuring enough flexibility to respond to these factors and bring forward a viable scheme.

3.4 Density typologies have been developed that reflect the suitability of different parts of the city for different types of housing development. These have informed the requirements of Policy HD2 and also are the basis of individual site capacity assumptions.

3.5 To inform the indicative densities, a thorough process was undertaken to establish contextually accurate readings of existing population and settlement densities in a series of varied locations around Oxford. These readings were informed by density figures recent developments in the city, data from the Consumer Data Research Centre (sourced from ONS/NRS/NISRA), and vetting by the professional expertise of council officers in the Urban Design and Heritage team and the Planning Policy team. Many examples and best practice research informed the rule of thumb calculations. Appendix 1 shows information on densities in Oxford that were used to inform the typology assumptions. A host of best practice literature, industry guidance and case studies of comparable locations were also used to inform indicative densities. Appendix 2 shows examples from elsewhere that were also used to inform these densities.

3.6 Documents reviewed included:

- Bristol City Council's Urban Living SPD – Making successful places at higher densities
- Bristol City Council's Urban Living SPD – Learning from recent higher density schemes in Bristol
- Superdensity: The Sequel, by New London Architecture and others
- Better Neighbourhoods: Making higher densities work, by CABE
- Lessons From Higher Density Development, London Plan Density Research, Report to the GLA, by Three Dragons and others

- Tapping the Potential: Best practice in assessing urban housing capacity, by URBED for Department of the Environment, Transport, and the Regions
- IPL Final Design and Access Statement, by URBED
- Density: It must follow, not lead, by Red Tree
- Design Catalogue, by Urhahn Urban Design
- Redefining Density: Making the best use of London's land to build more and better homes, by London First and Savills

3.7 These densities are for the purposes of setting the minimum indicative densities in Policy HD2, estimating housing capacity and setting minimum housing numbers. The densities are not guides for development, although they have been developed bearing in mind the characteristics of Oxford and the ambitions of the Local Plan for future development. Densities are only ever a function of the design process, and are not an aim or ambition in themselves, and appropriate densities will not necessarily mean appropriate design.

Table 1: Broad development typologies in Oxford and appropriate minimum densities.

Typology name	Description of typology	Density generally expected
District centres and the city centre	These areas are transport hubs with a mix of uses that provide a prime opportunity for high density car-free developments. These locations are already relatively built-up and new proposals will be largely infill, and unlikely to need new streets and servicing areas, helping to achieve high densities.	100dph
Gateway sites	These are larger sites that have the plot size to generate their own context in terms of massing and urban character. They are sites that occupy a strategic location or position of prominence, generally on the edges of the city, adjacent to main roads and well connected by public transport. However, they are not located in a transport and servicing hub such as the city and district centres, so such high density development may not be quite so desirable and easy to deliver. However, high densities are very suitable, so the indicative minimum is set at 80dph.	80dph
Suburban	Densification in the suburbs offers significant benefits as they are already integrated into the city, with existing infrastructure and transport connections available. Suburbs are often very low-density developments currently and there may be a variety of opportunities	60dph

	including under-utilised areas of land, garage sites and large plots. Increases in density are beneficial for these areas as they are more likely to support vibrant neighbourhoods with well-used local facilities through greater footfall.	

3.8 Conservation areas have not been identified as a specific typology because they vary so much in character, from densely packed and urban to ancient rural settlements that retain a semi-rural character. In many cases, the appropriate density in a conservation will still depend on whether the site is in a suburban area, gateway or centre. However, when setting minimum densities for site allocations in semi-rural conservation areas, a density of approximately 35 dwellings per hectare has generally been assumed. Higher densities may be possible, but this will need to be tested through detailed design.

Identifying developable area for housing

3.9 It is not usually the case that the entire site is developable. Assumptions need to be made about land that should be protected from development, in accordance with other policies of the Plan. This includes, for example, retaining space for existing play areas and parks, retaining wildlife buffers along watercourses, retaining significant exiting tree cover and retaining a noise buffer next to a railway or very busy road. While a detailed application could potentially justify the reduction of these later, it is very important that no assumption of their loss is built into the capacity calculation. This is because the capacity calculation becomes a minimum requirement in the policy. If it is necessary to build on sensitive areas of sites to meet the minimum capacity, then policies of the plan will conflict and determination of an application will be a less clear process.

3.10 Another important consideration is whether a site is proposed for a mix of uses. In district centres and the city centre particularly, this is an important way of making effective use of land and successful developments. On sites where other uses are being intensified, this may leave room to introduce housing. Housing on the upper storeys in district centres and the city centre is strongly encouraged. The overall aims and intended mix for the site will need to be understood to inform the housing capacity. In district centres, active frontages at ground floor level that continue to serve the functions of a district centre must be retained and factored into housing capacity calculations.

Identifying appropriate site capacities

3.11 Site visits were undertaken of all the sites allocated in the Plan. Quality of indoor space and outdoor space, access to amenities, sustainability of location, movement transport options, and interaction with relevant external factors like nearby heritage assets all carry important weight as considerations to bear in mind whilst attempting to maximise the efficiency of a development and deliver high-quality housing and placemaking. Attention was paid to the

individual characteristics of the site and its surroundings, including topography, surrounding use and heritage considerations, such as being located within a conservation area. The intention is to ensure efficient use of land in setting the capacity. The 'rule of thumb' density assumptions informed the calculation, depending on the general nature of the site. Oxford's physical and environmental constraints on its capacity for growth are not new issues and through the joint working undertaken as part of the Growth Board, an element of Oxford's unmet need was apportioned to the surrounding Oxfordshire district councils to accommodate within their administrative areas as part of the Duty to Cooperate process. This led to strategic allocations for growth in plans for all of the Oxfordshire district authorities most recent Local Plans.

4. Ensuring successful design at high densities

Challenges of designing at high density

4.1 There are very many benefits to designing at high density for example ensuring local accessibility of supported services and making effective use of land. However, it is also the case that successful development at higher density is likely to require great care over the design. Oxford's constrained capacity for housing land has traditionally meant that there is strong competition for land for housing, student accommodation, employment and other uses.

Other policies of the Plan to ensure successful design at high density

4.2 The examples in Appendix 2 show that high densities can be achieved without high-rise, although the densities expected in city and district centres may require buildings taller than prevailing heights. There may be circumstances where high-rise developments are an appropriate response, but the densities are set at a level that will not require this, given that suitability will be case-by-case and can't be known without detailed design and testing of that design (in accordance with Policy HD6: Views and Building Heights). The housing mix policy H5 is flexible about the mix of unit sizes in these locations in order to enable this high density.

4.3 High quality design is even more important at high densities to ensure the success of the development. A number of policies of the Plan become particularly important for higher density development to make sure it is successful. Policy HD8 is designed to ensure adequate privacy, daylight and sunlight, Policy HD9 ensures adequate internal space and Policy HD10 ensures adequate outdoor amenity space. Car parking standards set out in Policy C8 reflect the density expectations across the city.

Appendix 1: Oxford density examples of development typologies

Site	Settlement density (units per ha.)	Source of data	Prospective development typology
Banbury Road / Ring Road juncture	*45 per ha.*	*Consumer Data Research Centre – sourced from ONS/NRS/NISRA*	*Gateway site*
Barton (existing estate)	*29 units per ha. (low-density semi-detached 1950's style family housing)*	*Barton Park DAS (13/01383/OUT)*	*Suburban site*
Barton Park Phase 1	*60-70 per ha.*	*Barton Park DAS (13/01383/OUT)*	*Gateway site*
Belsyre Court, Woodstock Road	*45 per ha.*	*Consumer Data Research Centre – sourced from ONS/NRS/NISRA*	*Gateway site*
Cowley Road, East Oxford	*60-80 per ha.*	*Consumer Data Research Centre – sourced from ONS/NRS/NISRA*	*District centre*
Eagle Works	*100 per ha.*	*Consumer Data Research Centre – sourced from ONS/NRS/NISRA*	*Suburban site*
Frys Hill, Greater Leys	*30-40 dph (low-density detached family housing)*	*South Oxford Science Village DAS (May 2017 version)*	*Suburban site*
Headington Centre	*30 (minimal residential provision existing)*	*Consumer Data Research Centre – sourced from ONS/NRS/NISRA*	*District centre*
Headington Quarry	*30 per ha.*	*Consumer Data Research Centre – sourced from ONS/NRS/NISRA*	*Conservation area*
Horspath Road / Ring Road juncture	*30 per ha.*	*Consumer Data Research Centre – sourced from ONS/NRS/NISRA*	*Gateway site*
Jericho Victorian terraces	*60 – 80 per ha.*	*Consumer Data Research Centre –*	*Suburban site*

		sourced from ONS/NRS/NISRA	
Littlemore	*30 per ha.*	*Consumer Data Research Centre – sourced from ONS/NRS/NISRA*	*Conservation area*
Lower Waterways	*50 dph (high-density 3-storey family terraced housing)*	*Maidstone Council Density and Urban Design Study (Oxford locations used as case studies)*	*Suburban site*
Mill Road, Wolvercote	*47 units per ha. (cottages within a conservation area)*	*Wolvercote Paper Mill DAS (13/01861/OUT)*	*Conservation area*
Northway	*31 units per ha. (low-density semi-detached 1930's style family housing)*	*Barton Park DAS (13/01383/OUT)*	*Suburban site*
Summertown	*20 units per ha. (minimal residential provision existing)*	*Consumer Data Research Centre – sourced from ONS/NRS/NISRA*	*District centre*
Temple Cowley (consented scheme)	*150 dph.*	*Planning application*	*District centre*
Upper Waterways	*40 dph (mix of terrace and semi-detached family housing)*	*Maidstone Council Density and Urban Design Study (Oxford locations used as case studies)*	*Suburban site*

Appendix 2: External case studies

Site	Settlement density (units per ha.)	Description	Development typology represented
Accordia	*40*		*Suburban site*
Athena, Cambridge	*65*	*Part of new University Quarter. Terraced 2/3 storey townhouses with limited outside space.*	*Suburban*
Beaufort Court	*116*	*Infill development. A high density mixed-tenure housing scheme. Prefabricated building components.*	*District centre*
Durham Court & Gloucester House, Kilburn	*182*	*Infill development of flats and maisonettes ranging from 1-4 storeys. Some single aspect and very small flats led to comments about living environment- not taken as density that it's desirable to replicate- shows a likely upper end of potential.*	*District centre*
Ely Court	*66*	*South Kilburn, nearly a decade old. Lower storey lower than may be expected now. 43 homes in a terrace of 20storey maisonettes with a 4 storey link block and mews.*	*Gateway site*
Great Western Park	*42*	*Mix of houses, flats and specialist housing. Very large site delivering whole range of services means a lower density than can be achieved in infill sites of established suburban areas of Oxford.*	*Suburban site*

Newhall Be, Harlow	*52*	*Suburban development of 3 storey houses.*	*Suburban site*
Northwest Bicester	*50*	*Similar to Gret Western Park, slightly higher density achieved.*	*Suburban site*
Tibby's Triangle, Southwold	*85*	*Development on old Adnam's brewery site- edge of centre location in Southwold. Not suburban and not town centre. Representative of gateway typology. Relatively small site, low-rise, narrow plots*	*Gateway site*
Knights Park, Eddington	*65*	*NW Cambridge, 3-5 storey flats and 3 storey houses*	*Suburban site*